



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/521,572

08/16/2005

Shinichi Ishikawa

Q85803

4205

65565 7590 11/27/2009  
SUGHRUE-265550  
2100 PENNSYLVANIA AVE. NW  
WASHINGTON, DC 20037-3213

EXAMINER

MARC, MCDIEUNEL

ART UNIT

PAPER NUMBER

3664

NOTIFICATION DATE

DELIVERY MODE

11/27/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

SUGHRUE265550@SUGHRUE.COM  
USPTO@SUGHRUE.COM  
PPROCESSING@SUGHRUE.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,572	<b>Applicant(s)</b> ISHIKAWA ET AL.	
	<b>Examiner</b> MCDIEUNEL MARC	<b>Art Unit</b> 3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/12/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-5 are pending.
2. The rejection to claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by **Gräser** (*Technological Solutions to Autonomous Robot Control*, 1998) is withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3664

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gräser** (*Technological Solutions to Autonomous Robot Control*, 1998) in view of **Hudgens et al.** (US 20030110649 A1).

As per claims 1 and 2, **Gräser** as teaches a system and an associated method having an autonomous robot that equates to a carrier robot system (see fig. 1) comprising: a robot which has a placement portion for placing an object presenting a low-profile form thereon and carries the object (see fig. 1, and section 3., wherein the end effector being taken as a placement portion); a robot controller for controlling the robot (see fig. 1, particularly the “robot controller”); placement portion of the robot and having an image pickup member (see fig. 1, particularly the camera); an image processing portion for processing an image picked up by the image pickup member (see section 5.); and a superior control portion for controlling the robot controller and image processing portion from a superior position (see fig. 5, wherein the computer system being taken as superior control); a predetermined placement position (see fig. 1, wherein the end effector being taken as predetermine placement position) and transforming a position on the coordinate system of the image pickup member into a position on a coordinate system of the robot to determine the placement position (see fig. 2 and section 5 and the entire document). **Gräser** does not specifically teach a robot wherein a teaching jig mounted, in place of the object during a teaching operation; the teaching jig having a positioning mechanism with respect to the placement portion; wherein the robot is installed in a semiconductor manufacturing apparatus.

**Hudgens et al.** teaches a robot and a jig for a substrate carrier a teaching jig mounted on the (see figs. 12-13), in place of the object during a teaching operation (see section [0071]); the teaching jig having a positioning mechanism with respect to the placement portion (see figs. 12-13); wherein the robot is installed in a semiconductor manufacturing apparatus (see abs., fig. 12 and section [0001], wherein the robot being considered installed for carrying the substrate).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the robot type of Gräser, with the robot type of Hudgens' et al., because this modification would have introduced semiconductor manufacturing into Gräser's teaching, improving the efficiency and the reliability of the control and method for carrier robot.

As per claim 3, **Gräser** teaches an autonomous robot wherein a transformation matrix for transforming a relationship between the coordinate system of the image pickup member and the coordinate system of the robot in translation and rotation is determined in advance (see section 7, wherein having transformation matrix belongs to programming choice), and the position of the characteristic part in the coordinate system of the image pickup member is transformed into a position in the coordinate system of the robot (see section 5).

As per claim 4, **Gräser** teaches an autonomous robot wherein the jig is removable from the placement portion during conveyance of the object presenting a low-profile form (see fig. 1, wherein the transposition being interpreted as being removable from the placement portion during conveyance).

With respect to claim 5, having a characteristic part *such as* a hole, a pin, a mark, a letter pattern provided in the vicinity of the placement position does not have any patentable weight.

***Response to Arguments***

6. As to the reference not teaching a robot system that is installed in a semiconductor (see Hudgens' et al. abs., fig. 12 and section [0001], wherein the robot being considered installed for carrying the substrate);

As to the reference not teaching jig (see Hudgens' et al. figs. 12-13);

As to the reference not teaching jig having a positioning mechanism with respect to the placement portion (see Hudgens' et al. figs. 12-13);

As to the reference not teaching a computer system is used to control robot controller or the image processing portion (as noted by the applicant's representative Gräser's Figs. 1 and 5 contains a computer connected to various other components), note that Gräser's being used for image processing;

As to the reference not teaching where a teaching control portion (see Gräser's Fig. 1, particularly the robot's controller).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MCDIEUNEL MARC whose telephone number is (571)272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3664

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/McDieunel Marc/**

Examiner, Art Unit 3664

**/KHOI TRAN/**

Supervisory Patent Examiner, Art Unit 3664